CONCEPT: CELL-CELL ADHESION

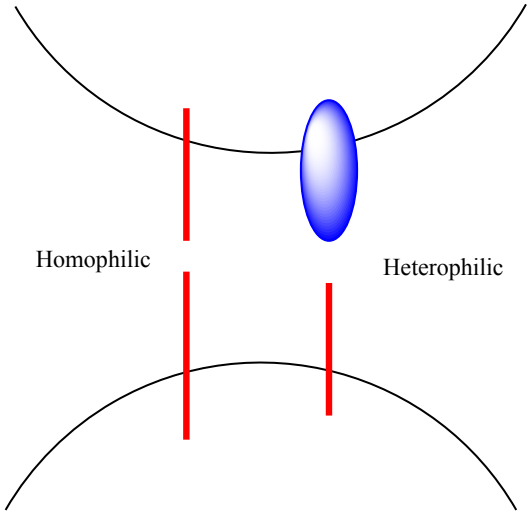
● Cells must be able to bind and interact with nearby cells in order to have functional and strong tissues

□ Cells can _____ in two main ways

- **Homophilic** interactions occurs when two cells use the same molecule type to interact (common)

- *Heterophilic* interactions occurs when two cells use different molecules to interact

EXAMPLE:



● **Cell adhesion molecules (CAMs)** are the main proteins used to _____ adjacent cells

□ **Cadherins** are glycoproteins found in the plasma membrane that connect cells

- Require calcium

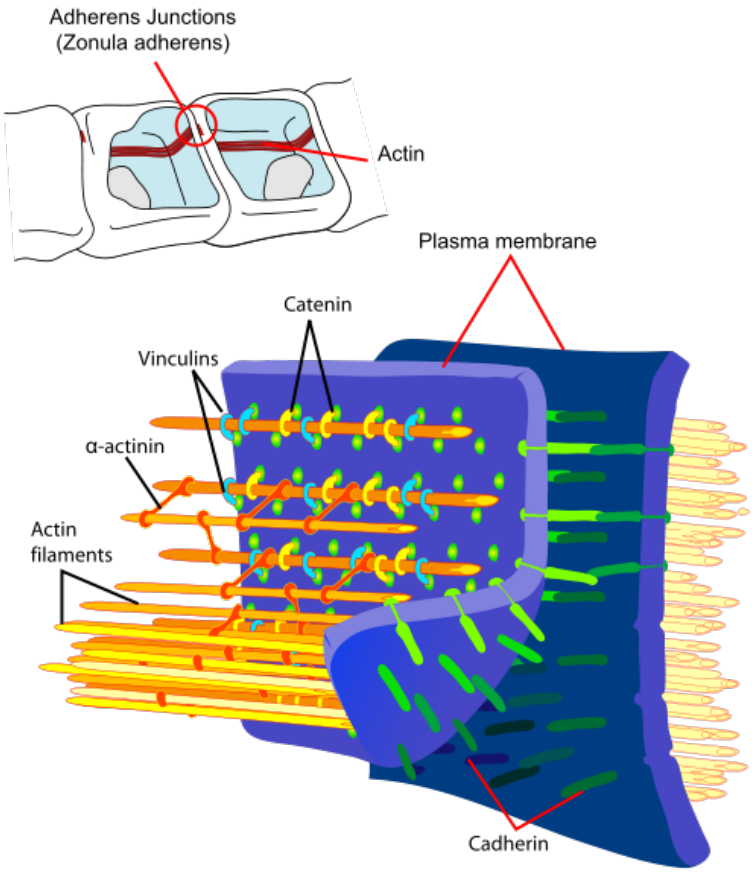
- There are three classical types: Endothelial (E), Placenta (P), and Neural (N)

- But there are many more non-classical types

□ Cadherins are extremely important for the *epithelial-mesenchymal transition* which occurs during development

- Leads to creation of mesodermal tissue (blood, muscle, and bone)

EXAMPLE:



□ There are other types of CAMs too

- **Lectins** promote cell-cell adhesion by binding to sugars on the plasma membrane
- **Selectins** are glycoproteins that mediate interactions between leukocytes and endothelial cells
    - Important during inflammation
    - Has three classes: Endothelial (E), Platelet (P), and Leukocyte (L)
- But there are many more non-classical types

PRACTICE:

1. Which of the following is not a type of cell adhesion molecules?
    a. Lectins
    b. Selectins
    c. Mectins
    d. Cadherins

2. Which of the following CAMs work by binding to sugars on the plasma membrane in order to promote cell-cell adhesion?
    a. Lectins
    b. Selectins
    c. Mectins
    d. Cadherins